ReadMe for “*Forecasting shifts in habitat suitability of three marine predators suggests a rapid decline in inter-specific overlap under future climate change*”

ANNONYMOUS FOR REVIEW

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This ReadMe file describes the .txt file (1), and raster data (.grd) and .R file (1) accompanying the above manuscript.

The locationData\_seals\_porpoises.txt file contains the presence locations of all species as collected during the period 1997-2020 by GPS and ARGOS tags. Location data are subsampled to reduce autocorrelation as described in the article. Coordinates are provided as longitude and latitude respectively using projection CRS = +proj=longlat +datum=WGS84 +no\_defs.

The raster data files provided are in the projection CRS = +proj=longlat +datum=WGS84 +no\_defs:

1) "SamplingEffortStack\_1997-2020.grd” This is the sampling effort raster stack for all species used to sample background points

2) " covariateStack\_1997-2020.grd" This is a raster stack containing the covariates used in the species-specific models for the period 1997-2020.

3) “MESSStack\_1997-2020.grd” This is a raster stack with the results of the multivariate environmental similarity surfaces (MESS) analysis for all species following the procedure of Elith et al., (2010). The file is used to clip out areas with novel conditions not used by the species in the study area during the period 1997-2020.

4) “MESSStack\_2090-2100.grd” This is a raster stack with the results of the multivariate environmental similarity surfaces (MESS) analysis for all species following the procedure of Elith et al., (2010). The file is used to clip out areas with novel conditions to be expected under RCP scenario 8.5 during the period 2090-2100.

5) “covariateStack\_2090-2100RCP60.grd” This is a raster stack containing all covariates used for predicting MaxEnt model results for the period 2090-2100 as projected under RCP 6.0.

6) “covariateStack\_2090-2100RCP85.grd” This is a raster stack containing all covariates used for predicting MaxEnt model results for the period 2090-2100 as projected under RCP 8.5.

The MAXENT\_analyses.R file contains the R-code used to perform the tuning and pruning of the species distribution models (MaxEnt) and predictions under current and future conditions as described in the article. We provide code for the Harbour porpoise modelling procedure, but the process is the same for all species.

For further queries contact: ANNONYMOUS FOR REVIEW